

CLAIMS

What Is Claimed Is:

- 1 1. An inflatable lap belt safety bag comprising:
2 a lower section secured to a lap belt proximate an inflation source;
3 a middle section; and
4 an upper section;
5 wherein the upper section is folded into the middle section and the upper section
6 and middle section are folded into the lower section; and
7 wherein upon inflation, the lower section inflates first to one side away from the
8 inflation source, the middle section inflates next, and the upper section inflates last towards the
9 inflation source.

- 1 2. The safety bag of claim 1 wherein upon inflation the bag has approximately a C-
2 shape.

- 1 3. The safety bag of claim 1 wherein the bag inflates around a user's arm.

- 1 4. The safety bag of claim 1 wherein the upper section inflates to the side of a user's
2 head.

- 1 5. The safety bag of claim 1 wherein the bag provides protection from both a
2 forward component and a side component.

1 6. The safety bag of claim 1 wherein the bag inflates at an angle of 45° relative to
2 the front of a user.

1 7. A lap belt comprising:
2 a housing; and
3 an inflatable safety bag wherein the safety bag comprises a lower section, a
4 middle section and an upper section, and wherein the upper section is folded into the middle
5 section and the upper section and middle section are folded into the lower section;
6 and wherein the air bag is folded into the housing and attached to the lap belt.

1 8. The lap belt of claim 7 further comprising a tubing connected and one end to an
2 air source and at another end to the lower section of the air bag.

1 9. The lap belt of claim 7 wherein upon inflation the bag has approximately a C-
2 shape.

1 10. The lap belt of claim 7 wherein the bag inflates around a user's arm.

1 11. The lap belt of claim 7 wherein the upper section inflates to the side of a user's
2 head.

1 12. The lap belt of claim 7 wherein the airbag provides protection from both a
2 forward component and a side component.

1 13. The lap belt of claim 7 wherein the housing is positioned to inflate the air bag at
2 an angle of 45° relative to the front of a user. The lap belt of claim 7 wherein the airbag provides
3 protection from both a forward component and a side component.

1 14. A method for providing a vehicle restraint system comprising:
2 determining an orientation of a vehicle seat in relation to an expected direction for
3 impact event;
4 providing a lap belt comprising:
5 a housing; and
6 an inflatable safety bag wherein the safety bag comprises a lower section,
7 a middle section and an upper section, and wherein the upper section is folded into the
8 middle section and the upper section and middle section are folded into the lower section;
9 and wherein the air bag is folded into the housing and attached to the lap
10 belt;
11 positioning the housing to direct inflation of the air bag towards the expected
12 direction of an impact.

1 15. The method of claim 14 wherein upon inflation the bag has approximately a C-
2 shape.

1 16. The method of claim 14 wherein the bag inflates around a user's arm.